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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/806,239

03/23/2004

Itsuji Minami

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EXAMINER

MISLEH, JUSTIN P

ART UNIT

PAPER NUMBER

2622

NOTIFICATION DATE

DELIVERY MODE

06/17/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/806,239	Applicant(s) MINAMI ET AL.	
	Examiner JUSTIN P. MISLEH	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed March 4, 2009 have been fully considered but they are not persuasive.
2. Applicant argues, "the Examiner made a mistake in judging the structure of Minami et al. In Fig. 1D of Minami et al. there does not exist such a clearance."
3. The Examiner respectfully disagrees with Applicant's position. First, there is the slight air gap (D) between the left side G and H leads/adhesives and the right side G and H leads/adhesives. Second, there is an aperture in the circuit board (24) between the left side G and H leads/adhesives and the right side G and H leads/adhesives. Each of those two elements each respectively serves as the clearance. There is nothing in Claim 1 that physically defines what the clearance actually is. Therefore, the Examiner will maintain the rejection on this basis.
4. Applicant additionally argues, "no clearance exists between adhesion areas at points G and H located on a same side of the cover glass 22."
5. Again, the Examiner respectfully disagrees with Applicant's position. Figure 1(A) of Minami et al. clearly show where the cover glass (22) is rectangular from a top perspective. Therefore, the cover glass (22) includes a top side, a bottom side, left side and a right side. The leads on both the left side and the right side range from the top side of the cover glass to the bottom side of the cover glass. Thus, the G/H leads/adhesives closest to the bottom side of the cover glass are in fact on the same bottom side. Accordingly, the G/H leads/adhesives closest to

Art Unit: 2622

the top side of the cover glass are in fact on the same top side. Therefore, the Examiner will maintain the rejection on this basis.

6. Applicant finally argues, “In Minami et al., no entrance of a concave portion exists. As illustrated in Fig. 1D of Minami et al., cover glass 22 is not blocking any entrance of a concave portion.”

7. The Examiner respectfully disagrees with Applicant’s position. Minami et al. show in figures 1(A) – 1(D), where the circuit board (24) has an aperture for fitting in an image pickup device. This aperture serves as an accommodation portion. Kim et al. further turns the same accommodation portion in Minami et al. into a concave accommodation portion. In either case, the cover glass in each of Minami et al. and Kim et al. block an entrance to the aperture/concave portion. Therefore, the Examiner will maintain the rejection on this basis.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over Minami et al. (US 6,040,612) in view of Kim et al. (US 7,138,695 B2).

10. For **Claim 1**, Minami et al. disclose, as shown in figures 1(A) – 1(D), an imaging apparatus comprising:

Art Unit: 2622

an imaging portion (20) in which a cover glass (22) is adhered to an imaging surface side (S) of a solid-state image pickup device (20) as if sandwiching leads (21), a slight air gap (D) is formed between the cover glass (22) and the imaging surface (S) of the solid-state image pickup device (20) and a circumference of the cover glass (22) is larger than the solid-state image pickup device (20 – clearly shown in figure 1(D)), and

a circuit board (24) having an accommodation portion (space between through holes 25 and 24A) for accommodating the solid-state image pickup device (20)) so as to connect the leads (21) to terminals on an upper edge of the accommodation portion (leads 21 are attached to the circuit board 24 and to that solid-state image pickup device 20 residing in the accommodation portion),

wherein the portion (space between through holes 25 and 24A) for accommodating the solid-state image pickup device (20)) forms a clearance between an adhesion area between the solid state image sensor (20) and the cover glass (22), and an adhesion area between the cover glass (22) and the circuit board (24; see Examiner's explanation below);

wherein the circumference of adhesion area between the cover glass (22) and the circuit board (22) adheres to the circuit board (24) in a state of sealing the accommodation portion (figure 1(C) shows where the outer adhesion area is applied to all sides of the accommodation portion).

The Examiner respectfully notes the accommodation portion is rectangular with top, bottom, left, and right sides and the cover glass (22) blocks an entrance of this accommodation portion. There are at least two adhesion areas on each of the left and right sides. For instance, on the left side, as seen in figures 1(C) and 1(D), there is an adhesion area between the sensor

Art Unit: 2622

(20) and the cover glass (22) at pad G and there is also an adhesion area between the pad H, on the circuit board (24), and the cover glass (22). The cover glass (22) also has a bottom side, in addition to the agreed upon left and right sides, that are shown in figure 1(D). Therefore, there still is a clearance between a first adhesion area (e.g., the adhesion area between the sensor (20) and the cover glass (22) at pad G on the left side) and a second adhesion area (e.g., the adhesion area between the pad H, on the circuit board (24), and the cover glass (22) on the right side). In this instance, there is a clearance formed between the first adhesion area and the second adhesion area, wherein both adhesion areas are on the same bottom side of the cover glass.

However, Minami et al. do not show where the accommodation portion is a concave accommodation portion. In other words, Minami et al. simply shows where the sensor package is directly inserted into the accommodation portion and does show a housing surrounding the sensor package when inserted in the accommodation portion.

On the other hand, Kim et al. also show an imaging apparatus with a cover glass, sensor, and circuit board. Specifically, Kim et al. teach, in figure 4, an imaging apparatus with a cover glass (18), sensor (11), and circuit board (16), wherein the sensor (11) is seated in a hollow area formed on a side surface of the circuit board (see column 5, line 27 – 45). Additionally, Kim et al. teach where an epoxy resin (19) is molded to a rear surface of the circuit board (16) and the sensor (11). Therefore, the circuit board (16) and epoxy resin (19) in-combination form an accommodation concave portion in the circuit board (16) where the sensor resides.

The Examiner submits it would have been obvious to one with ordinary skill in the art to have incorporated the accommodation concave portion teachings of Kim et al. in the imaging

Art Unit: 2622

apparatus disclosed by Minami et al. for the advantage of *enhancing air tightness and reliability of the imaging apparatus* (see Kim et al., column 2, lines 11 – 21).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David Ometz can be reached on 571.272.7593. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

Art Unit: 2622

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**/Justin P. Misleh/
Primary Examiner
Group Art Unit 2622
June 15, 2009**